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Presidential address

European Association for Cardio-Thoracic Surgery: carrying the torch ☆

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I would like to thank you for the honour of electing me as your President. As many of you might suspect and some of you know, in a well organised society like ours, with the Secretariat ably run by Torkel Aberg and Maud Zingmark, and the Organisational Secretariat efficiently managed by Kathy McGree, the duties of the President are not onerous. But still, a major task rests heavily on the shoulders of every President – the task of delivering the presidential address. After looking through the efforts of my predecessors, I decided on the topic, which captivated me for many years, but has received little attention in the past. I will talk about our society, the European Association for Cardio-thoracic Surgery (EACTS), which I had the honour to serve as Secretary, Editor, and now as President. I will try to give you my personal view of the origins of this association; I will share with you some observations why this association was started; how it developed and where it stands now; and I will offer some thoughts about actions, which we should take in the future.

The EACTS traces its origin to a group of skiing cardiac surgeons, who enjoyed lively scientific exchange and sports, first in the shadows of Matterhorn in Cervinia, and continued to meet for a number of years on the slopes of Courchevel in France.

The person who really started this association, to whom the association owns its existence, and who must be given full credit for its success, is Francis Fontan (Fig. 1). He has not only realised the necessity for an advanced European scientific forum for cardio-thoracic surgery, but also had the intellectual authority and tenacity to start this association. In 1986 he invited a small group of European cardio-thoracic surgeons to a meeting to be held at the airport in Amsterdam. He made a careful preparation of the topics to be discussed, centred on the formation of a new scientific organisation of cardio-thoracic surgery.

As a thoracic counterpart in the formative years of the EACTS, the honour goes to Keyvan Moghissi (Fig. 2), who helped write most of the original constitution, and who carefully preserved the balance between cardiac and thoracic surgery in the offices and governing bodies of the Association.

First congress was organised in Vienna in 1987 by Ernst Wolner and was opened by the first president of the Association, Francis Fontan, on September 14th, 1987. The first meeting of the EACTS was an unequivocal success, and led in 1988 to the second meeting in Bordeaux, and continued with a series of annual meetings leading to this 16th congress in 2002.

Why did we decide to start another cardio-thoracic association? First, many of us were frustrated and unhappy with the state of surgical meetings in Europe. In those earlier conferences, there was often an obvious geographical bias in the selection of papers, with several countries having to be represented in the program, without consideration for the scientific quality of the material. Anonymous selection of papers was not applied, many speakers announced in the program did not bother to appear, and papers were rarely published. Even worse, those meetings often addressed only a narrow choice of topics, with soporific consequence of sessions consisting of 6, 7 or 8 almost identical papers about the same subject. Meetings did not keep to the announced schedule, afternoon sessions were sometimes delayed for hours due to substantial lunch breaks. In summary, it was a far cry from truly professional meetings of the American Association of Thoracic Surgery (AATS) and Society of Thoracic Surgeons (STS), where European surgeons went to present their best material, and to learn about advances in our profession.

But the founders of the EACTS were also aware of the important tradition of the European cardio-thoracic surgery, and we felt that it deserved a proper scientific forum. First documented suture of the heart was performed by Ludwig Rehn in Frankfurt in 1896 (Fig. 3). Application of pneumothorax for treatment of pulmonary tuberculosis – the

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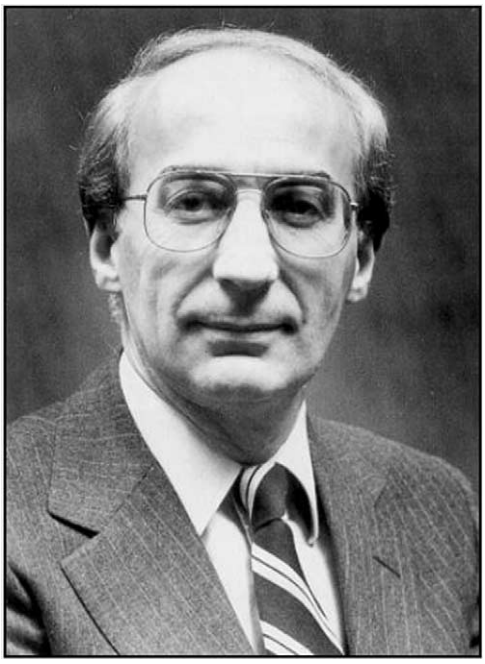

Fig. 1. Francis Fontan.

only possible therapy at that time – was originated by Forlanini in Italy.

One should remember the innovative work of Sauerbruch – incidentally one of my predecessors at the chair in Zurich – who pioneered surgery of the chest in 1904. It was well before the advent of endotracheal intubation, and he placed both patient and surgeon in the low pressure chamber (Fig. 4),

Fig. 2. Keyvan Moghissi.

patient breathing spontaneously, and lung collapse being prevented by subatmospheric pressure in the chamber. Few surgeons are nowadays aware that a cardiosurgical centre functioned already in the thirties at the Lambeth Hospital in London under leadership of Laurence O'Shaugnessy, concentrating on the surgical treatment of coronary artery disease (Fig. 5). As a paradigm of the terrible years to come, this most promising career was cut short by a stray bullet on the beach in Dunkirk in 1940, when O'Shaugnessy was stationed as a surgeon with British Expeditionary Corps in France.

It is not universally known that it was a surgeon, Werner Forssman, who laid the groundwork for the epochal development of invasive cardiology in 1929 with his heroic self-experiment of heart catheterisation. After performing a venous cutdown on his cephalic vein, he threaded an ordinary uretheral catheter into his own heart, and even walked to the radiology department with the catheter in place, to document catheter's position with a chest X-ray. Very few people are nowadays aware of the Russian genius, Sergei Sergeeivich Brukhonenko, who constructed workable oxygenators in the twenties and thirties, preceding well publicised efforts by Gibbon. Before World War II (WWII) rising stars of American surgery went to Europe to complete their education – the reverse of what my generation did in the 1960s and 1970s.

When you look at Steven Westaby's book about landmarks in cardiac surgery, you will find that out of 44 most important scientific articles selected, 29 came from US and Canada. Why is the cardiac surgery nowadays considered more or less a North-American invention? In my opinion, the explanation for this bias is twofold: First, the European pioneers rarely published in English, nowadays acknowledged to be the language of science. You have to search for their reports in German, French, Italian and Russian literature, which – I regret to say – only a small minority of modern cardio-thoracic surgeons nowadays reads. But the major reason for the delayed development of our profession in Europe is to be found in those terrible, dark years of WWII, with its immeasurable losses in lives and property; the war which halted – with small exceptions – the development of our discipline in Europe. In the 6 years period between 1939 and 1945, millennia of European culture disappeared in the ashes of Second World War. At the time when United States was enjoying a period of unprecedented prosperity, and major scientific breakthroughs were taking place at American hospitals and universities, Europe was still trying to recover from the ravages of war.

In spite of all material setbacks, many original ideas in our field emanated from Europe and continue to do so. Risking to be considered an Eurocentric, I just want to remind you that the first correction of aortic coarctation was performed by Clarence Crafoord in Stockholm in 1944; that Cid dos Santos – after a thorough theoretical preparation – performed and documented the first endarterectomy in 1946. First correction of transposition of the great

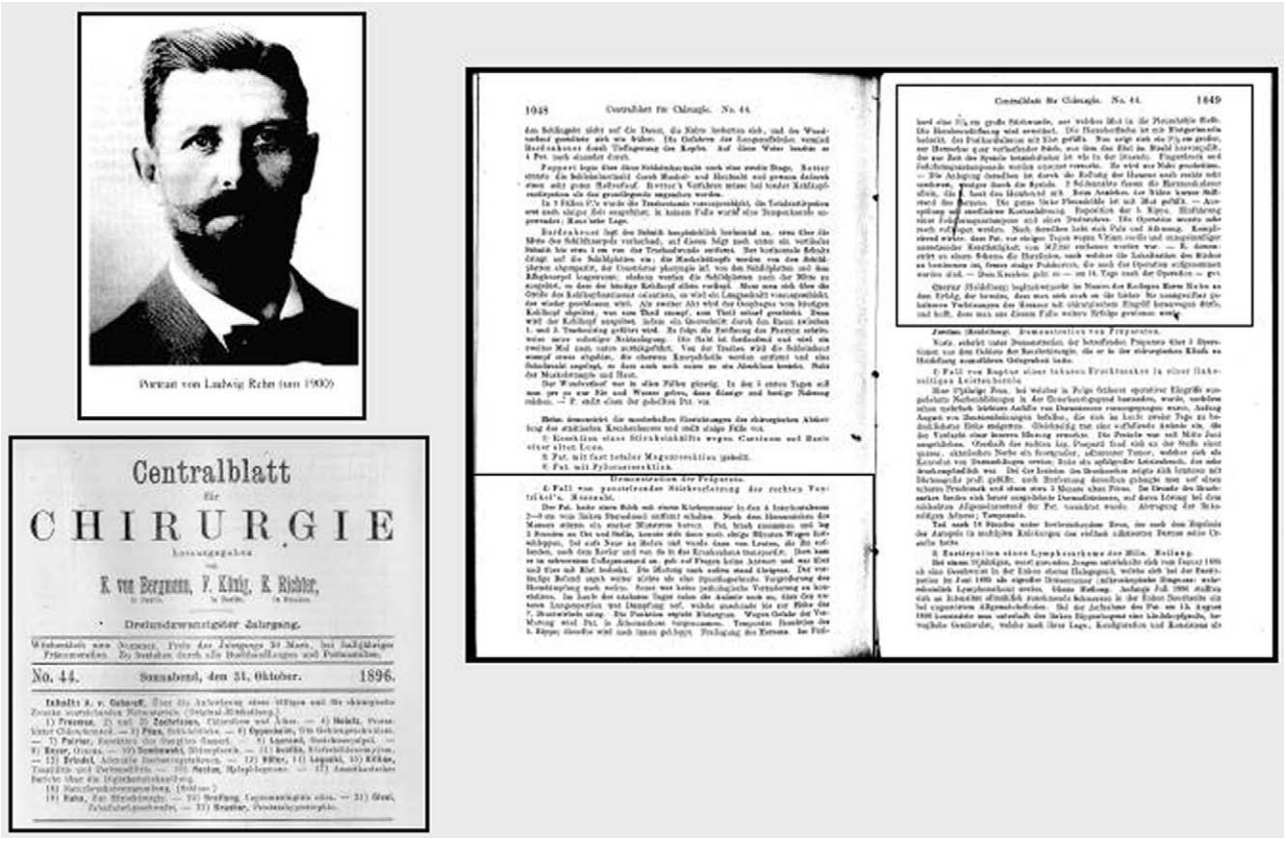

Fig. 3. Rehn's first suture of the heart, 1896.

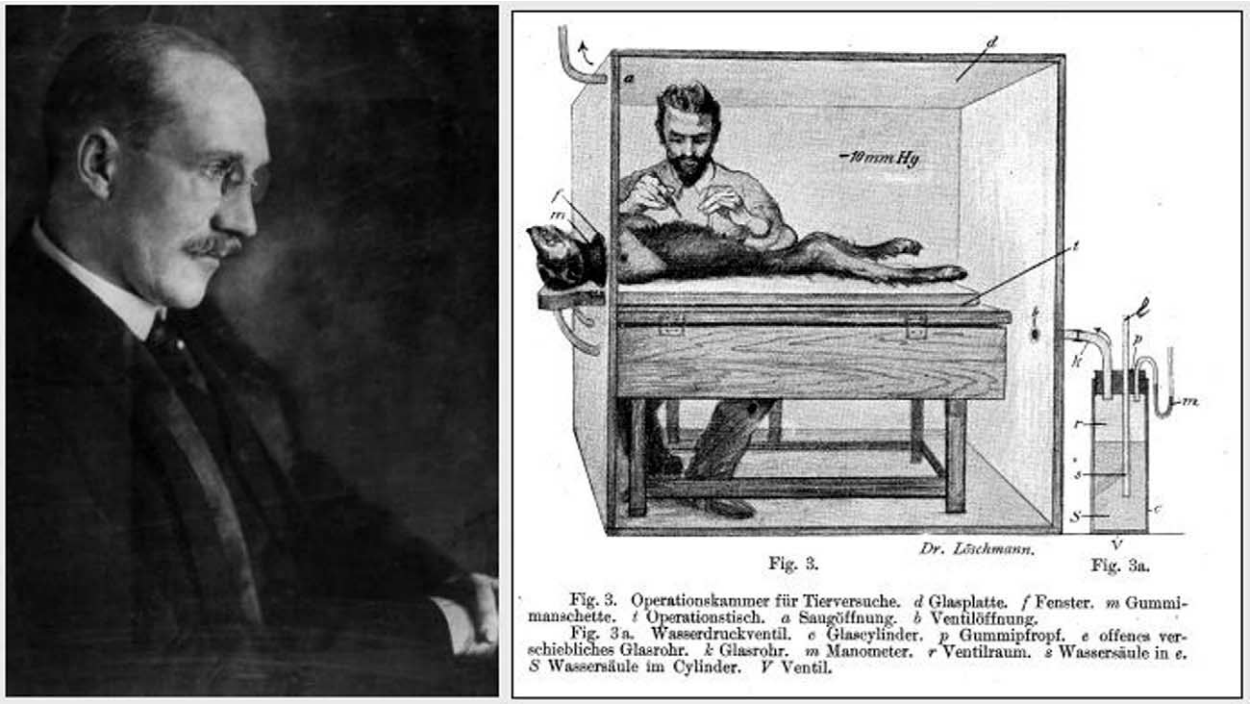

Fig. 3. Fig. 3a.

Fig. 3. Operationskammer für Tierversuche. *d* Glasplatte. *f* Fenster. *m* Gummimanschette. *t* Operationstisch. *a* Saugöffnung. *b* Ventilöffnung.
Fig. 3a. Wasserdruckventil. *c* Glascylinder. *p* Gummipfropf. *e* offenes verschiebliches Glasrohr. *k* Glasrohr. *m* Manometer. *r* Ventilraum. *s* Wassersäule in *e*. *S* Wassersäule im Cylinder. *V* Ventil.

Fig. 4. Experimental development of Sauerbruch's low pressure chamber for surgery of the lung and esophagus (1904).

Laurence O'Shaughnessy (1900–1940)
Research Fellow, Royal College of
Surgeons of England

The Bristol
Medico-Chirurgical Journal

*"Scire est nescire, nisi id me
Scire alius sciret."*

SUMMER, 1937.

THE CAREY COOMBS MEMORIAL LECTURE

DELIVERED AT A MEETING OF THE SOCIETY
ON WEDNESDAY, MAY 6th, 1937.

THE PRESIDENT (Dr. R. C. CLARKE)
in the Chair.

BY

LAURENCE O'SHAUGHNESSY, F.R.C.S.,

Consultant Surgeon to the Lambeth Cardiovascular Clinic (L.C.C.), London.

ON

THE PATHOLOGY AND SURGICAL TREATMENT OF CARDIAC ISCHÆMIA.

Fig. 5. O'Shaugnessy' omentopexy for CAD (1937).

arteries was designed and successfully performed by that genius of surgical innovation, my teacher and mentor Ake Senning (Fig. 6).

So where does the EACTS stands now? It is obvious that our association intends to continue this European tradition of investigative efforts in the field of cardio-thoracic surgery, and we have studied – and tried to emulate – efforts of other successful scientific organisations. In setting up the EACTS, we tried to meet some major objectives: to hold an interesting annual meeting, and to develop a distinguished, peer-reviewed journal; to establish a solid financial foundation, based on an efficient, professional management. But the most important feature of a successful society remains the innovative guidance by a group of officers and councillors willing to devote a substantial part of their time and intellectual effort to this task.

The attendance at our annual meetings bears witness that our concept is correct (Fig. 7), and that this concept is honoured by an increasing, widespread interest in our meetings. From the humble beginnings in 1987, the attendance rose steadily through the years, and we were able to attract close to 2500 participants in our Lisbon Meeting in 2001, and expect to have close to 2800 in Monaco.

In the early years of the EACTS, our membership was intended to be a distinction, similar to the membership in the AATS, and was awarded only to most prestigious European cardio-thoracic surgeons. I remember well the comment of one of our founding fathers, that we should not become 'another pedestrian society'. In retrospect, the concept was too exclusive, and membership criteria were modified, admitting all properly qualified surgeons with a documented scientific interest. We have also instituted the new category of associate membership, with the gratifying consequences that our membership began to rise (Fig. 8), and will reach close to 1800 in 2002. I am confident that this trend will continue.

Nevertheless, I believe that our meetings should continue to adhere to the strict criteria formulated early in our history, the rules which are responsible for the success of the EACTS. A good scientific meeting should obviously cover all areas of the profession, to generate interest not only among general cardio-thoracic surgeons, but also among all specialised groups in our field. The attendance by a large and knowledgeable audience is essential for a critical, stimulating discussion. As a participant, you do not want just to listen to a series of papers; you want to hear dissenting opinions, and you want to formulate your own judgement based on an informative discussion. Meeting should fulfil not only purely scientific objectives, but should also cover teaching aspects as well, as exemplified by our very popular Postgraduate Course. In scientific sessions, we insist that the presented material should be new and original, and this becomes a substantial task for the long-suffering Program Committee. Strict adherence to time schedule is also essential, to give all speakers equal opportunity to present their material, without having to rush through the

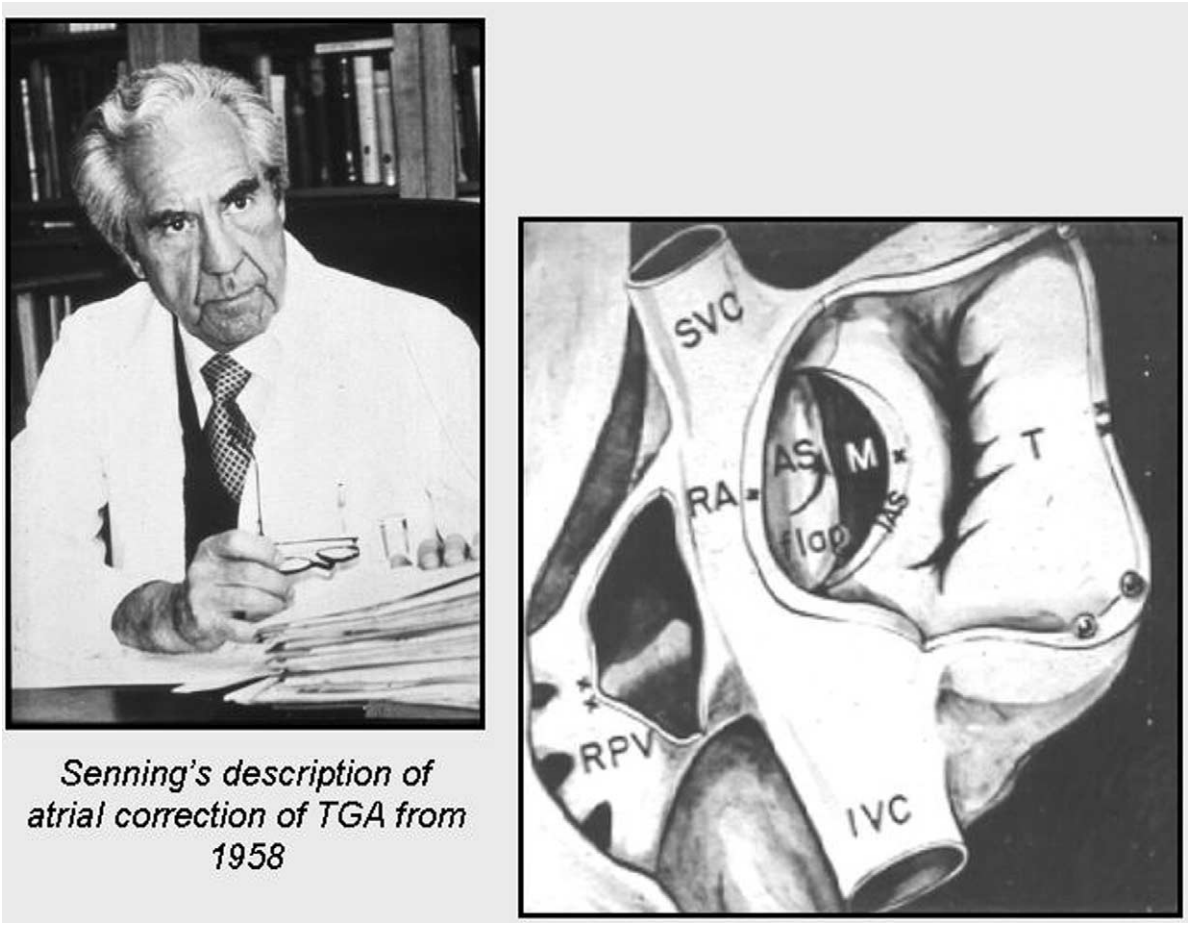

Fig. 6. Senning's description of atrial correction of TGA from 1958.

last papers in the session and cutting short their discussion, because of some long-winded earlier culprit. Probably the most important feature of the meeting is the obligatory submission of presented material. Here we remain strict in informing the authors who fail to submit their paper, that they will not be permitted to present their work at two future consecutive meetings of the EACTS.

Our official journal, The European Journal of Cardio-Thoracic Surgery, was started in 1987 by Hans Borst. Manuscript submissions show a steady increase in the number of papers received, exceeding 1000 new submissions in 2001, with an obviously increasing trend (Fig. 9). Electronic submission and electronic reviewing have greatly increased the attractiveness of the journal, and led to much shorter publication times – 6 months – better than our main competitors. In order to publish this substantial material it became necessary not only to make a major increase in the number of pages in the journal – we will exceed 2300 pages in 2002,

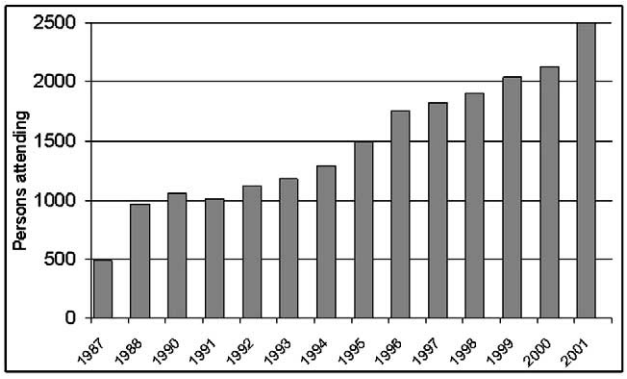

Fig. 7. The European Association for Cardio-thoracic Surgery.

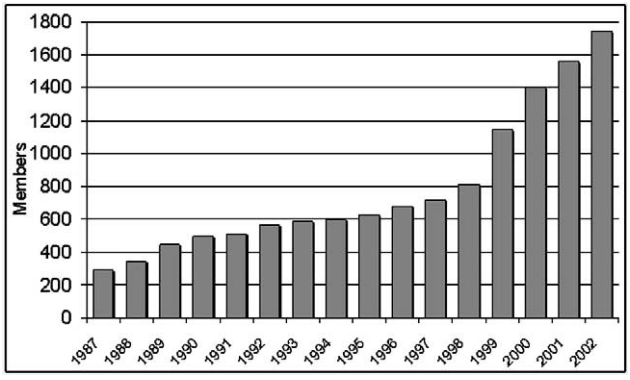

Fig. 8. The European Association for Cardio-thoracic Surgery.

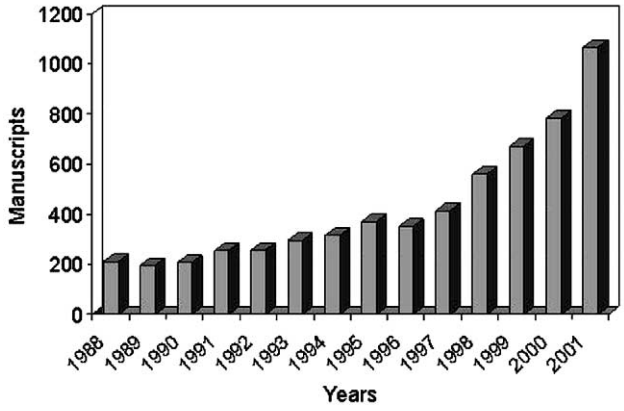

Fig. 9. European Journal of Cardio-thoracic Surgery.

but also to change the publisher. Only after joining forces with the Elsevier Company, was our journal finally able to demonstrate its growth potential.

As all of you know, journals live by impact factor, in other words the number of annual literature quotations, divided by the number of papers published. I am very proud that our impact factor – after a long uphill struggle in the publishing desert – is finally rising steeply from the international insignificance to the level approaching that of our competitors, the major American journals in the field (Fig. 10).

Where to go on from now? In my opinion, nothing is more dangerous – for associations as well as individuals – to become self-content and satisfied with the momentary situation. Therefore, it is necessary to explore the avenues where the EACTS should direct its future activity and where it should channel the substantial talents at its disposal. In fact, our Association faces a series of major challenges, which I will touch only briefly.

First, EACTS is still predominantly a cardiac association, with low representation among thoracic surgeons, as shown in this breakdown of our members (Fig. 11). Only 12% of our members profess to be pure thoracic surgeons, as opposed to 59% being cardiac and 23% cardio-thoracic surgeons. Moving carefully away from our initial objectives of science and education, and entering the political arena, it becomes obvious that we should aim to represent the entire

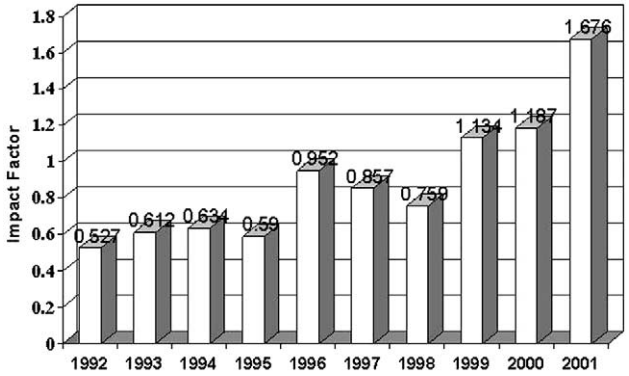

Fig. 10. European Journal of Cardio-thoracic Surgery.

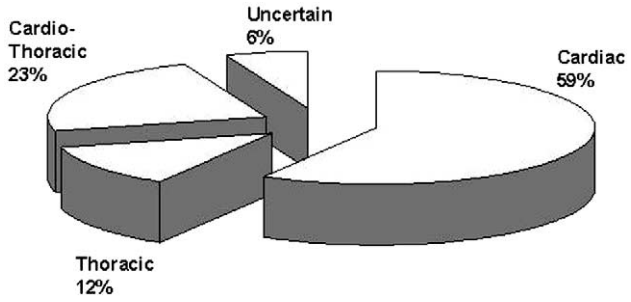

Fig. 11. European Association for Cardio-thoracic Surgery.

European cardio-thoracic and possibly even cardiovascular surgery. We should be the single representative of our profession in the Union Européene des Médecins Specialistes in Brussels, to be able to influence the emerging, all encompassing and sometimes not well advised legislative efforts, so dear to the heart of technocrats in the European Union. To do this, it is essential to establish a much closer cooperation with the European Society of Thoracic Surgeons (ESTS). We intend to organise future joint meetings, give postgraduate courses, establish guidelines, and assure a wider representation of thoracic surgeons within our Association. This is indeed the major topic in the intense discussions we are now conducting with the leadership of ESTS. And finally, we should not forget that we have another major problem: an unequal representation of Western and Eastern European surgeons in our Association.

Not only is the EACTS underrepresented in the field of thoracic surgery; we – as Association – are reaching only a smaller proportion of European cardio-thoracic surgeons. In May of 2002 CTSNet registered 6491 European cardio-thoracic surgeons; therefore our membership presently amounts to only 24% of the total number of cardio-thoracic surgeons practising in Europe. It is obvious, that we should try to reach a larger proportion of our colleagues, which are presently staying outside of the EACTS. But most of our membership – 85%, to be exact – comes from Western Europe, and only 15% from the rest of Europe. Obviously, we are reaching predominantly the cardio-thoracic community in the countries of the European Union.

The next obvious challenge for the EACTS lies in the field

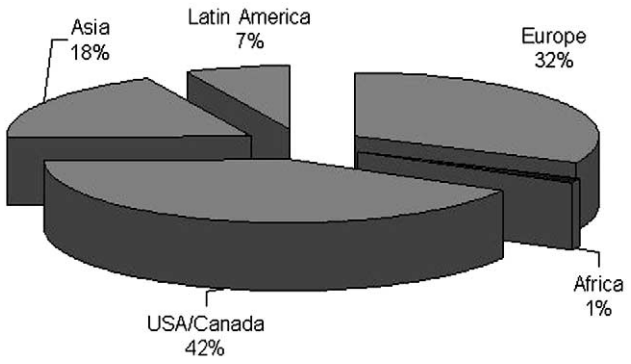

Fig. 12. World census of cardio-thoracic surgeons.

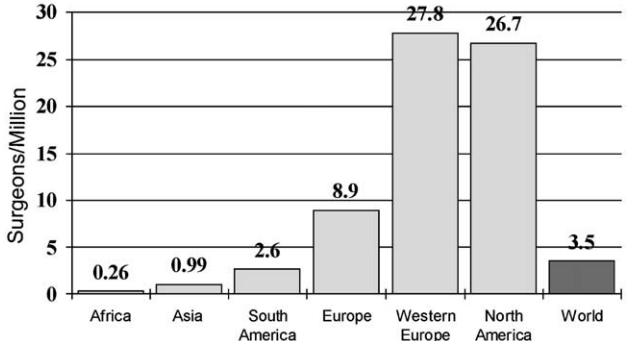

Fig. 13. World-wide distribution of cardio-thoracic surgeons.

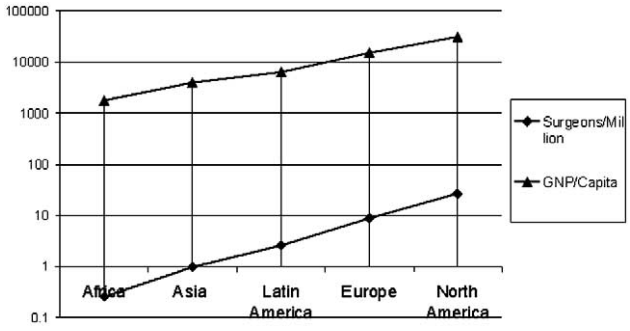

Fig. 14. Correlation between GNP and distribution of cardio-thoracic surgeons in the world.

of surgical training; indeed, according to our constitution, this should be one of our major tasks. We are presently involved in several efforts in this field: we have initiated the process of European Board Certification; Sam Nashef is performing excellent work on his accreditation program for centres, and we are providing popular Eastern European Scholarships. There are also several new efforts aimed at distribution of knowledge. We are preparing structured postgraduate education in Villa Elios, which will be given both in cardiac and thoracic surgery. We are also exploring new methods of transmittal of knowledge, as represented by Ludwig von Segesser's Interactive Journal, and I will only briefly mention my personal effort to establish an internet-based depository of knowledge and techniques in cardio-thoracic surgery, which I presently elect to call just the E-Manual.

At the risk of saying something unpopular, I feel obliged to outline the areas where our Association presently cannot go, and where we should avoid raising false expectations. In spite of EACTS being a well organised society, having a successful journal and an interesting annual meeting, you should be aware that the association is faced with very limited financial resources. They are reserved for the logistics of such an association, with secretariats in Windsor and Umea, with various committees, and a substantial editorial support. Therefore, I am afraid that even in future we will not be able to provide monetary support to institutions and we cannot supply needy centres with equipment, prostheses and surgical materials.

Still, there is a possibility – and indeed our duty – to help. As a modest example, I can show you a very successful and – even more importantly so – self-supporting cardiac centre in Croatia, where I was able to provide some assistance, and continue to do so. This unit was established with an investment of less than 10 million Euros, all privately raised. It is attached to an already existing cardiac rehabilitation hospital, and performs more than 700 open heart procedures and 2500 heart catheterisations and percutaneous coronary angioplasties annually.

But our biggest challenge, the one where I cannot offer you a simple solution, is to improve the availability of good cardio-thoracic surgery in less privileged countries, not only in Europe but also elsewhere. Based on the CTSNet data, which now counts a total surgical membership in excess of 21 000, you can see (Fig. 12) that 42% of all cardio-thoracic surgeons practise in North America and 32% in Europe. There are only 18% of them in Asia, 7% in Latin America, and Africa, poorest of them all, has only 1% of cardio-thoracic surgeons at its disposal. Obviously, there is only one cardio-thoracic surgeon for 4 million inhabitants in Africa, 1 per million in Asia, 2.6 per million in Southern Europe, rising to 28 per million in Western Europe and 27 in North America (Fig. 13). Gross National Product (GNP) in Africa is less than 1800 $ per inhabitant; and it rises to 31 000 $ in North America and close to 24 000 in Western Europe. When GNP and number of cardio-thoracic surgeons are plotted on a logarithmic scale (Fig. 14), it becomes obvious that the density of cardio-thoracic surgeons very closely follows the distribution of GNP. Does it mean that cardiac surgeons are greedy? This is a populistic explanation which many politicians and media will jump to. But the truth lies elsewhere: well trained surgeons need a solid infrastructural basis to practise the kind of medicine they have been trained to do, and this is especially true for cardio-thoracic surgery. It is sad that our own field closely follows so called 'Inverse Care Law' formulated by Julian Tudor Hart in 1971, stating bluntly 'that the availability of good medical care tends to vary inversely with the need for it in a population served'.

What can we do about this sad fact? In practice, regretfully not much, but some help is better than none. We should concentrate on establishing a registry of such efforts in the EACTS, merging it with Jim Cox's World Heart Foundation. Our members with experience in developmental projects should help us formulate a set of guidelines when establishing cardio-thoracic programs in less prosperous countries. There is no point in repeating the mistakes of the past, and in underprivileged countries – as some of you very well know – one sometimes works under a different set of rules.

It is obvious that challenges abound, and my generation, which lead the EACTS through its formative years, must be ready to pass the torch to younger colleagues. I am confident that they will rise to the challenges outlined and that they will be able to formulate new solutions for these very old problems.